



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,561	12/12/2005	Victor Weiss	BKE-0010	6649
23413 7590 11/19/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER				
KOVAT, MELISSA J				
ART UNIT		PAPER NUMBER		
2862				
NOTIFICATION DATE		DELIVERY MODE		
11/19/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

### Office Action Summary

**Application No.**

10/560,561

**Applicant(s)**

WEISS ET AL.

**Examiner**

MELISSA J. KOVAL

**Art Unit**

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 03 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1,6-8,11-13,15-24,26-34,36,38,40-42,45,46,48,49,65,70-72 and 75 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-646)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/17/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims **withdrawn** from consideration are 2-5,9,10,14,25,35,37,39,43,44,47,50-64,66,73 and 74.

**DETAILED ACTION**

1. This application is in condition for allowance except for the following formal matters:

***Election/Restrictions***

2. Applicant's election with traverse of Group I, embodiment 1, Figures 1A and 1B, corresponding to claims 1, 6, 7, 8, 11, 12, 24, 26, 38, 40, 41, 42, 45, 48, 65, and 75 in the reply filed on September 3, 2008 is acknowledged. The traversal is on the ground(s) that groups defined by any of the figures not including Figures 1A and 1B depict variants which depend on the device depicted in Figures 1A and 1B. This is not found persuasive because the groupings must further be considered in view of PCT 371 Lack of Unity. The International Search Authority has determined that independent claims 1 through 5 require different groupings because they do not share a common special technical feature. The examiner is in agreement and notes that the applicant's decision to withdraw independent claims 2 through 5, corresponds with the groupings made by the International Search Authority, incorporated by reference herein, for applicant's convenience:

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,75,104 and corresponding dependent claims

Image display comprising a reflector disposed behind a light guide for reflecting the scene through a light guide portion and a combining/transforming element towards the user.  
---

2. claims: 2,105 and corresponding dependent claims

Image display comprising a dark opaque shield located behind the light guide for better discrimination of the image to be displayed against ambient light.  
---

3. claims: 3,76,106 and corresponding dependent claims

Image display comprising an intermediate beam transforming element so as to transform the light beams propagating within the light guide.  
---

4. claims: 4,107 and corresponding dependent claims

Image display comprising a plurality of input beam transforming elements and a plurality of intermediate beam transforming elements so as to transform the light beams propagating within the light guide into a set of light beams.  
---

5. claims: 5,108 and corresponding dependent claims

Image display comprising a first light guide and a second light guide whose input element is located below the input element of the first light guide, and whose output element is located opposite to that of the first light guide.  
---

Furthermore, Applicant's amendments to claim 1, result a clearer delineation between independent claims 1 and the limitations of independent claims 2 through 5: "the scene and the observer being located on the same side with respect to incident image displaying device".

Applicant has amended all elected, originally presented multiple dependent claims to depend from newly amended claim 1.

3. The restriction requirement is still deemed proper and is therefore made FINAL.

4. Claims 2-5, 9,10,14, 25, 35, 37, 39, 43, 44, 47, 50-64, 66, 73 and 74 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species or group, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on September 3, 2008.

A complete reply to this office action must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Drawings***

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sensor resulting in a "sensor fused image" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The "sensor fused image" is referred to on page 33, lines 28 and 29, of applicant's specification, for more than one image projector, to be accomplished by "employing one or more beam splitters, or other sensor fusion methods known in the art". No beam splitters, for example, are shown in the figures. The examiner requires clarification to understand if a "sensor fused image of said at least one incident image" is created by the beam transforming elements (BTEs) already

shown, the viewer's brain, glasses, a beam splitting device, prism, Fresnel lens or another optical element that is simply not shown in the figures.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

6. Claims 1, 6-8, 11-13, 15-24, 26-34, 36, 38, 40-42, 45, 46, 48, 49, 65, 70-72 and 75 are objected to because of the following informalities: With respect to claim 1, the disposition of a sensor, if present, for creating a "sensor fused image" is unclear.

Furthermore with respect to claim 1, the limitation "the list" in the second to last line of the claim should be changed to - - a list - -.

With respect to claim 75, only some of the steps are clearly set forth, i.e. the steps of "coupling a set of light beams" and "decoupling a set of light beams", and "reflecting a scene image of a scene" as described therein. However, in view of the above objections, the examiner requires clarification regarding a possibly omitted step, that step directed to "sensing and fusing and image". Furthermore, the method claim requires clarification of steps describing transforming an input beam and transforming an output beam by means of refraction or diffraction to parallel newly amended apparatus claim 1. Clarification of the method claim 75 and the apparatus claim 1 would result in the claims having essentially the same scope.

7. Claims 6-8, 11-13, 15-24, 26-34, 36, 38, 40-42, 45, 46, 48, 49, 65, and 70-72 depend from claim 1 or an intervening claim.

Appropriate correction is required.

***Allowable Subject Matter***

8. Claims 1, 6-8, 11-13, 15-24, 26-34, 36, 38, 40-42, 45, 46, 48, 49, 65, 70-72 and 75 would be allowable if rewritten or amended to overcome the objection(s) as set forth above in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter: Each and every limitation of claims 1 and 75, respectively, is required to patentably distinguish the claims over the prior art of record. In addition to the newly



added limitations, clearly defining the disposition of the "at least one input beam transforming element", "at least one output beam transforming element" and "a scene image reflector located behind at least one light guide" is an essential requirement for the claimed limitations to result in defining the claims over the prior art of record. The scope of the method claim with respect to the apparatus claim should not greatly differ in order for the examiner's objections to be overcome.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited as background of the invention.

Zhang U.S. Patent 7,345,277 B2 teaches an image intensifier and LWIR fusion/combination system.

Yosha et al. U.S. Patent Application Publication US 2006/0215244 A1 teaches a vehicle display system.

Chirieleison U.S. Patent Application Publication US 2008/0002262 A1 teaches an eye tracking head mounted display.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA J. KOVAL whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MELISSA J KOVAL/  
Primary Examiner of Art Unit 2862

MELISSA J KOVAL  
Primary Examiner  
Art Unit 2862

MJK